CLAIMS

1. (Amended) A method of filtering a stream of sampled acoustic signals, comprising the steps of:

[(a)] partitioning [a] the stream of sampled acoustic signals into a sequence of frames;

[(b)] Fourier transforming [said flames] the frames to yield a sequence of transformed frames;

[(c)] applying a generalized Wiener filter to [said] the transformed frames to yield a sequence of filtered transformed frames, wherein [said] the filter uses power spectrum estimates from line spectral frequencies (LSFs) defined as weighted sums of LSFs of a codebook of LSFs with the weights determined by the LSFs of [said] the transformed frames; and

[(d)] inverse Fourier transforming said sequence of filtered transformed frames to yield a sequence of filtered frames.

2. (Amended) The method of claim 1, further comprising the step[s] of:

[(a)] repeating the step [(c)] of [claim 1 but] applying with the LSFs of [said] the transformed frame replaced with the LSFs of the filtered transformed frame of a preceding iteration of [said] the step [(c)] of [claim 1] applying.

3. (Amended) The method of claim 2, wherein:

[(a) said] the step [(c)] of [claim 1] applying is repeated a number of times with the number in the range of 6 to 7.

4. (Twice Amended) A method of noise suppression filtering for a sequence of frames of noisy speech, comprising:

filtering a frame of noisy speech that includes the sub-steps of:

estimating a noise power spectrum, $P_{NOISE}(\omega)$, of the frame of noisy speech, wherein the variable ω is the discrete frequency;

computing a noisy speech power spectrum for the frame of noisy speech;

smoothing noisy speech power spectrum with respect to the variable ω to yield a smoothed noisy speech power spectrum, $P_{SMOOTHEDNOISYSPEECH}(\omega)$, for the frame of noisy speech;

defining a noise-suppression filter using the noisy speech power spectrum, and the smoothed noisy speech power spectrum;

filtering the frame of noisy speech with the noise suppression filter; and

repeating the step of filtering for each frame of noisy speech for a plurality of frames of noisy speech.

5. (Twice Amended) The method of claim 4, wherein the sub-step of smoothing is a convolution with respect to the variable ω of the noisy speech power spectrum and a window function, W(ω).

6. (Twice Amended) The method of claim 4, wherein the noise suppression filter includes the term:

$$1 - \frac{cP_{NOISE}(\omega)}{P_{SMOOTHEDNOISYSPEECH}(\omega)},$$

wherein c is a positive constant.

7. (Twice Amended) The method of claim 6, wherein c is equal to 1.

8. (Twice Amended) The method of claim 6, wherein c is equal to 4.

9. (Twice Amended) The method of claim 4, wherein the noise suppression filter includes the term:

$$\max\left\{M^2, 1 - \frac{cP_{NOISE}(\omega)}{P_{SMOOTHEDNOISYSPEECH}(\omega)}\right\},$$

wherein c and M are a positive constant.

10. (Twice Amended) The method of claim 4, wherein the sub-step of estimating further comprises the sub-steps of:

equating the noise power spectrum of the frame to a product of a first constant and a noise power spectrum estimate of a prior frame when the smoothed noisy speech power spectrum of the frame is less than the product of the noise power spectrum estimate of the prior frame and the first constant;

equating the noise power spectrum of the frame to the smoothed noisy speech power spectrum of the frame when the smoothed noisy speech power spectrum of the frame is greater than or equal to the product of the noise power spectrum estimate of the prior frame and the first constant and when the smoothed noisy speech power spectrum of the frame is less than or equal to the product of the noise power spectrum estimate of the prior frame and a second constant, wherein the first and second constants are positive, and wherein the product of the first and second constants is less than one; and

equating the noise power spectrum of the frame to the product of the noise power spectrum estimate of the prior frame and the second constant, when the smoothed noisy speech power spectrum of the frame is greater than the product of the noise power spectrum estimate of the prior frame and the second constant.

11. (Twice Amended) The method of claim 10, wherein the first constant is 0.978 and the second constant is 1.006.

12-13. (Cancelled)